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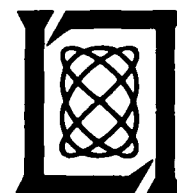
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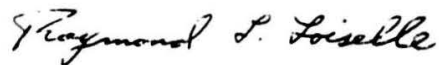
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FOR THE COMMANDER

A handwritten signature in cursive script that reads "Raymond L. Loiselle".

Raymond L. Loiselle, Lt. Col., USAF
Chief, ESD Lincoln Laboratory Project Office

FOREWORD

Volume 7 of Unclassified Publications of Lincoln Laboratory lists reports published from 15 December 1977 to 15 December 1979, as well as updated information on earlier publications.

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31 March 1978	AD-A060685/5	31 March 1979	AD-A082395/5
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15 September 1966	AD-803845	15 December 1973	AD-778085/1
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526	Modal analysis of SAW Convolver	K.L. Wang	13 Jan. 1978	AD-A056809/7
527	A Quasi-Two-Dimensional Aerodynamic Force Model for Star-Shaped Bodies at Hypersonic Velocities	J.R. Baron J.E. Libby	10 Mar. 1978	AD-A059086/9
528	Millstone Hill Thomson Scatter Results for 1971	J.V. Evans B.A. Emery J.M. Holt	24 Mar. 1978	
530	Millstone Hill Thomson Scatter Results for 1972	J.V. Evans J.M. Holt	18 Sept. 1978	
531	Incoherent Scatter Measurements of E- and F-Region Density, Temperatures, and Collision Frequency at Millstone Hill	W.L. Oliver J.E. Salah R.H. Wand J.V. Evans	23 Feb. 1979	
532	Local Site Distortion Model of Magnetostriction	G.F. Dionne	29 Nov. 1978	AD-A066250/2
533	Orientation of Crystalline Overlayers on Amorphous Substrates by Artificially Produced Surface Relief Structures	D.C. Flanders	5 Dec. 1978	AD-A071168/9
534	Magnetic Moment Versus Temperature Curves of Rare-Earth Iron Garnets	G.F. Dionne	11 July 1979	AD-A077356/4
535	Digital Encoding of Speech and Audio Signals Based on the Perceptual Requirements of the Auditory System	M.A. Krasner	18 June 1979	AD-A077355/6
536, Part I	Optimal Firing Policy for the Defense. Part I: Confirmation Option	A.A. Grometstein	6 July 1979	AD-A077274/9
537	Millstone Hill Thomson Scatter Results for 1973	J.V. Evans R.R. Babcock, Jr. J.M. Holt	22 Oct. 1979	
538	Alignment of Liquid Crystals by Surface Gratings	D.C. Shaver	31 Oct. 1979	AD-A086816

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1978-2, Vol. 1	On-Board Satellite Signal Processing	L.S. Metzger	31 Jan. 1978	AD-A052768/9
1978-4	Flywheel Components for Satellite Applications	A.R. Millner	16 May 1978	AD-A060586/5
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1978-29	The Monopulse Performance of an Optical Heterodyne Detector with Varying LO Distributions	R.J. Sasiela	21 Dec. 1978	AD-A066253/6

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1978-33	Computer Simulation Model for a Digital Communications Network Utilizing an Embedded Speech Encoding Technique	S. Seneff	20 Oct. 1978	AD-A065102/8
1978-34	Real Time Astrometry	L.G. Taff I.M. Poirier A. Freed R. Sridharan	25 Sept. 1978	AD-A061923/9
1978-37	Rotating Bodies and Their Lightcurves	L.G. Taff	3 Nov. 1978	AD-A063502/9
1978-38	A Method for Identifying Differences Between Two Classes	N.E. Lindgren	29 Nov. 1978	AD-A064724/8
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1979-14	Factors Affecting the Performance of Adaptive Antenna Systems and Some Evaluation Techniques	J.T. Mayhan F.W. Floyd	9 Aug. 1979	AD-A081711/4
1979-15	Some Effects of Hard Limiting in Adaptive Antenna Systems	F.W. Floyd, Jr. J.T. Mayhan	1 Oct. 1979	AD-A080531/7
1979-17	Image Restoration by Short Space Spectral Subtraction	J.S. Lim	20 Feb. 1979	AD-A070382/7
1979-21	Experimental Measurements of Ground Reflection Elevation Multipath Characteristics and Its Effects on a Small Aperture Elevation Tracking Radar	D.F. Sun	5 Mar. 1979	AD-A077915/7
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1979-23	Characterization of Transconductance Multiplier Weight Circuits for an Adaptive Antenna System	B.C. Levens	22 June 1979	AD-A080491/4
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1979-25	An Intermediate-Averaged Theory for High Altitude Orbits	R. Sridharan W.P. Seniw	27 June 1979	AD-A073094/5

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1979-26	PIN Diode Weight Circuits	B.M. Potts	28 Dec. 1979	AD-A083992/8
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1979-35	Performance Limitations on Parameter Estimation of Closely Spaced Optical Targets Using Shot-Noise Detector Model	M-J. Tsai K-P. Dunn	13 June 1979	AD-A073462/4
1979-36	A Reflection Coefficient Transforming Circuit for Phase Shifters	H.A. Atwater	22 Oct. 1979	AD-A080490/6
1979-38	Differential Orbit Correction for Near-Stationary Artificial Satellites	L.G. Taff J.M. Sorvari	17 July 1979	AD-A074231/2
1979-39	Reduction of Quantization Noise in PCM Image Coding	J.S. Lim	1 May 1979	AD-A071247/1
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1979-43	Accuracy of Parameter Estimates for Closely Spaced Optical Targets	K-P. Dunn	13 June 1979	AD-A073093/7
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1979-49	On Gauss's Method of Orbit Determination	L.G. Taff	21 June 1979	AD-A073776/7
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1979-51	Enhancement and Bandwidth Compression of Noisy Speech	J.S. Lim A.V. Oppenheim	26 June 1979	AD-A073139/8
1979-52	Restoration of Speckle Images	J.S. Lim H. Nawab	3 July 1979	AD-A074626/3
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1979-61	Photometry of Artificial Satellites Application to the Ground Electro-Optical Deep Space Surveillance (GEODSS) Program	J.M. Sorvari	9 Oct. 1979	AD-A078675/6
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1979-68	A High Performance UHF Satellite Transmitter	M.L. Stevens	28 Nov. 1979	AD-A083262/6
1979-69	The Terrain Shielding Algorithm Used in the MASR Airborne Surveillance Radar Program	P.L. Fleck	3 Dec. 1979	AD-A081409/5

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1979-72	A New Algorithm for Adaptive Radar Signal Processing	D.F. DeLong	31 Dec. 1979	AL A082856/6
1979-75	Prediction and Buffering of Digital Speech Streams for Improved TASI Performance on a Demand-Assigned Satellite Channel	W. Kantrowitz C.J. Weinstein E.M. Hofstetter	15 Nov. 1979	AD-A081593/6
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1979-84	A Distributed Processor Architecture for BMD Signal and Data Processing Applications	R.L. South R.J. Purdy	21 Dec. 1979	AD-A082725/3

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|------|--|---|--|
| 4034 | Far-Infrared Photoconductivity in High Purity GaAs | G.E. Stillman
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J.O. Dimmock | Chapter 4 in <u>Semiconductors and Semimetals, Vol. 12, Infrared Detectors</u> (Academic Press, New York, 1977), pp. 169-288 |
| 4415 | On the Wigner Distribution Function for an Oscillator | R.W. Davies
K.T.R. Davies | Ann. Phys. 89, 261 (1975), DDC AD-A050670 |
| 4580 | Ionospheric Scintillation | R.K. Crane | Proc. IEEE 65, 180 (1977), DDC AD-A063208/3 |
| 4598 | Bandwidth Specification for Adaptive Optics Systems | D.P. Greenwood | J. Opt. Soc. Am. 67, 390 (1977), DDC AD-A063205/9 |
| 4610 | Seismic Moment, Source Dimensions, and Stresses Associated with Earthquakes in the Mediterranean and Middle East | R.G. North | Geophys. J. R. Astr. Soc. 48, 137 (1977), DDC AD-A058951/75 |
| 4622 | Infrared Third-Harmonic Generation in Phase Matched CO Gas | H. Kildal | IEEE J. Quantum Electron. QE-13, 109 (1977), DDC AD-A063206/7 |
| 4624 | ELF Communications Antennas | M.L. Burrows | Book - IEE Electromagnetic Waves Series, Vol. 5 (P. Peregrinus Ltd., Stevenage, England, 1978) |
| 4627 | Scattering by Multilayered Lossy Periodic Strips With Application to Artificial Dielectrics | L.L. Tsai
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| 4639 | Communication Satellite Antennas | L.J. Ricardi | Proc. IEEE 65, 356 (1977), DDC AD-A063415/4 |
| 4640 | Fabrication Techniques for Surface Wave Devices | H.I. Smith | Chapter 7 in <u>Topics in Applied Physics, Vol. 24, Acoustic Surface Waves</u> (Springer-Verlag, Berlin, 1978), pp. 305-322 |
| 4657 | Properties of Phase Conjugate Adaptive Optical Systems | J. Herrmann | J. Opt. Soc. Am. 67, 290 (1977), DDC AD-A063416/2 |
| 4659 | The Dynamics of Air Breakdown Initiated by a Particle in a Laser Beam | D.E. Lencioni
L.C. Pettingill | J. Appl. Phys. 48, 1848 (1977), DDC AD-A063420/4 |
| 4662 | Recovery of Undersampled Periodic Waveforms | C.M. Rader | IEEE Trans. Acoust., Speech, and Signal Processing ASSP-25, 242 (1977), DDC AD-A063207/5 |

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B.B. White | IEEE Trans. Commun. COM-26, 131 (1978), DDC AD-A054567/3 |
| 4670 | Evidence for ω -Cube Scaling from Amplitudes and Periods of the Rat Island Sequence (1965) | C.W. Frasier
R.G. North | Bull. Seismol. Soc. Am. 68, 265 (1978), DDC AD-A060928/9 |
| 4673 | The Use of Angles and Angular Rates, I: Initial Orbit Determination | L.G. Taff
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| 4676 | Tracking Turbulence-Induced Tilt Errors with Shared and Adjacent Apertures | D.P. Greenwood | J. Opt. Soc. Am. 67, 282 (1977), DDC AD-A063417/0 |
| 4677 | Submillimeter Heterodyne Detection with Planar GaAs Schottky-Barrier Diodes | R.A. Murphy
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W.T. Lindley | IEEE Trans. Microwave Theory Tech. MTT-25, 494 (1977), DDC AD-A063204/2 |
| 4680 | Effects of High-Intensity Electron Bombardment on the Secondary-Emission Characteristics of a MgO/Au-Cermet Film | G.F. Dionne
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| 4682 | A Sequential Approach to Target Discrimination | C.W. Therrien | IEEE Trans. Aerospace Electron. Systems AES-14, 433 (1978), DDC AD-A060927/1 |
| 4687 | Evidence for Anisotropic Scattering of Short-Period P Phases in the Upper Mantle | D.K. Chowdhury
C.W. Frasier | Bull. Seismol. Soc. Am. 68, 609 (1978), DDC AD-A061205/1 |
| 4688 | Incoherent Scatter Contributions to Studies of the Dynamics of the Lower Thermosphere | J.V. Evans | Revs. Geophys. Space Phys. 16, 195 (1978) |
| 4689 | A Modified Cramér-Rao Bound and its Applications | R.W. Miller
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4692	Variance and Spectra of Angle-of-Arrival and Doppler Fluctuations Caused by Ionospheric Scintillation	R.K. Crane	J. Geophys. Res. 83, 2091 (1978), DDC AD-A058956/2
4695	Digital Speech Networks	B. Gold	Proc. IEEE 65, 1636 (1977), DDC AD-A054568/1
4697	Advances in CO ₂ Laser Stabilization Using the 4.3 μ m Fluorescence Technique	C. Freed R.G. O'Donnell	Metrologia 13, 151 (1977)
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